



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,214	03/12/2004	Ravinder Patnam Krishnaswamy	G&C 30566.315-US-01	7441
55895 7590 07/24/2007 GATES & COOPER LLP HOWARD HUGHES CENTER 6701 CENTER DRIVE WEST, SUITE 1050 LOS ANGELES, CA 90045			EXAMINER NGUYEN, PHILLIP H	
			ART UNIT 2191	PAPER NUMBER
			MAIL DATE 07/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Application No.

10/799,214

Applicant(s)	
---------------------	--

KRISHNASWAMY ET AL.

Examiner

Phillip H. Nguyen

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) .
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed on 5/8/2007. Claims 1, 3-7, 9-13 and 15-18 have been amended. Claims 1-18 remain pending and have been considered below.

Claim Rejections - 35 USC § 101

2. The amendment filed on 5/8/2007 overcomes the rejection to claims 1-18 of previous action. Therefore, the rejection is withdrawn.

Claim Objections

3. Claim 10 is objected to because of the following informalities: Claim 10 should be labeled as "currently amended". Appropriate correction is required.

Response to Arguments

4. Applicant's arguments filed 5/8/2007 have been fully considered but they are not deemed persuasive.

Applicant asserts on page 8 of the amendment that the combination of Jonhson and Glerum references does not teach or suggest the specific steps or functions recited in Applicant's claims for providing contextual diagnostic data at a point of failure of a software program.

Examiner respectfully disagrees with the allegation as argued. Glerum teaches **"For a crash, a name of an executable module where the crash occurred in the**

application program module, a version number of the executable module, a name of a module containing an instruction causing the crash, a version number of the module and an offset into the module with the crashing instruction are determined. This bucket information is then transmitted to a repository for storage in a database. The database may be examined to determined fixes for the bug that caused the crash.” (see at least the abstract). Another words, Glerum’s approach provides contextual diagnostic data at a point of failure of a software program for analyzing in order to fix the bug.

Applicant further asserts on page 8 of the amendment that the central object stack in Johnson is not a call stack of the program.

Examiner respectfully disagrees with the allegation as argued. Although, the central object stack is independent and separate from the application’s call stack as disclosed by Johnson, but the use of the central object stack is the same as the call stack as disclosed in the instant application. To reduce the burden of dealing with the program’s call stack, Johnson’s approach using the central object stack. However, when the object registers on the central object stack, a pointer to the object is also registered on the program’s call stack (see at least the abstract). Another words, the object is also registered on the program’s call stack, but the central object stack is used for handling a runtime error or exception of a program to reduce the burden of dealing with the program’s call stack. Even though, the central object stack is independent and separate from the application’s call stack, they are the same.

Applicant asserts on page 10 or the amendment that Glerum says nothing about performing callback processing, wherein the notified callbacks of the modules and sub-applications extract and supply the contextual diagnostic data.

Examiner respectfully disagrees with this allegation as argued. Glerum discloses **"if the executable program 210 has registered exception filter 220 with the operating system, then the exception filter 220 is executed (called) when the executable program 210 encountered an exception"** (see at least col. 5, lines 53-56). Glerum further discloses **"the exception 220 executes the failure reporting executable 230. The failure reporting executable 230 determines what relevant information to retrieve from the application program module to uniquely identify, i.e. categorize, the failure"** (see at least col. 6, lines 23-47). Another words, failure data is gathering for supplying to the repository.

Examiner is entitled to give the claim limitations their broadest reasonable interpretation in light of the specification. See MPEP 2111 [R-1] Interpretation of Claims-Broadest Reasonable Interpretation. During patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification. Applicant always has the opportunity to amend the claims during the prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541, 550-51 (CCPA 1969).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (United States Patent No.: 5,948,113), in view of Glerum et al. (United States Patent No.: US 6,785,848 B1).

As per claims 1, 7 and 13:

Johnson discloses:

- registering callbacks for one or more modules and sub-applications within the program ("**registers allocated objects on the thread's central object stack 220**" col. 9, line 29);
- examining a call stack for the program upon failure of the program ("**the exception handling code 210 within the GOM 200 pops off objects 225a-c on the central object stack 220 added or registered since the stored location or address**" col. 9, lines 36-38);
- notifying the registered callbacks for the modules and sub-applications based on the examined call stack ("**the objects popped off the central object stack 220 are deemed to be unregistered from the central object stack**");

220" col. 9, lines 39-41, unregistered the objects from the stack means notifying the registered objects they have been unregistered).

Johnson does not explicitly disclose:

- performing callback processing, wherein the notified callback of the modules;
and
- packaging the context data supplied by the notified callback for the modules and sub-application.
- using the packaged contextual diagnostic data for further analysis in order to troubleshoots the point of failure of the software program.

However, Glerum discloses an analogous method for providing diagnose data at a point of failure of a software program ("**the data sent to the repository may be used by developers to diagnose the failure and if possible, develop a fix for the failure**" col. 8, lines 65-67), comprising:

- performing callback processing, wherein the notified callback of the modules and sub-applications extract and supply the contextual diagnostic data ("**if the executable program 210 has registered exception filter 220 with the operating system, then the exception filter 220 is executed (called) when executable program 210 encounters an exception**" col. 5, lines 53-56, **exception filter 220 can be a module or sub-application within the executable program 210**);
- packaging the context data supplied by the notified callbacks of the modules and sub-applications ("**exception filter 220 executes a failure reporting**

executable 230" col. 5, lines 57-58; **"the failure executable 230 determines what relevant information to retrieve from the application program module ...sent to the repository as a bucket. A bucket is a set of information uniquely defining the location of the failure"** Col 6, line 32-41, **packaging is to combine or group data and bucketing is also a similar process); and**

- using the packaged contextual diagnostic data for further analysis in order to troubleshoots the point of failure of the software program (see at least the abstract **"For a crash, a name of an executable module where the crash occurred in the application program module, a version number of the executable module, a name of a module containing an instruction causing the crash, a version number of the module and an offset into the module with the crashing instruction are determined. This bucket information is then transmitted to a repository for storage in a database. The database may be examined to determined fixes for the bug that caused the crash."**)

Therefore, it would have obvious to one having an ordinary skill in the art at the time the invention was made to modify Johnson's approach to have the registered objects, such as modules, applications, sub-applications etc., to extract and supply data and packaging the context data. One of ordinary skill in the art would have been motivated to modify Johnson's approach so that it is possible for the vendor to send the fix to the user in response to a bucket being sent and received (**"After a set up failure**

Art Unit: 2191

is fixed, it is possible to send the fix to the user in response to a bucket received"

col. 11, lines 12-13).

As per claims 2, 8 and 14:

Johnson further discloses:

- wherein the registering step comprising registering callbacks for the modules and sub-applications when an address of a procedure or function within the modules and sub-applications is on the call-stack upon the failure of the program ("**the exception handling code 210 within the GOM 200 pops off objects 225a-c on the central object stack 220 added or registered since the stored location or address**" col. 9, lines 36-38).

As per claims 3, 9 and 15:

Glerum further discloses:

- wherein the contextual diagnostic data is comprised of stack data, heap data, global data or external data ("**global data**" col. 8, line 51).

As per claims 4, 10 and 16:

Glerum further discloses:

- wherein the packaging step comprises storing the packaged contextual diagnostic data ("**A bucket is a set of information...**" col. 6, line 40, **this means, information are stored/combined/grouped as a bucket**).

Art Unit: 2191

As per claims 5, 11 and 17:

Glerum further discloses:

- wherein the packaging step comprises transferring the packaged context data to a server computer ("**the failure is sent to the repository as a bucket**" col. 6, line 39).

As per claims 6, 12 and 18:

Glerum further discloses:

- wherein the packaging step comprises storing the transferred, packaged context data on the server computer ("**the failure is sent to repository as a bucket**" col. 6, line 39; "**corporate file server repository may be used to store the failure encountered by users**" col. 2, lines 59-60).

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2191

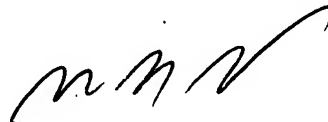
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip H. Nguyen whose telephone number is (571) 270-1070. The examiner can normally be reached on Monday - Thursday 10:00 AM - 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PN
7/12/2007



WEI ZHEN
SUPERVISORY PATENT EXAMINER